Prior Art Rejections

Independent claim 14

The Examiner rejected claims 14-15 and 24-27 as anticipated by Troester. We submit that Troester fails to disclose a marking device comprising a drive means to drive the pin in a third direction substantially orthogonal first and second directions against a surface to be marked, the third direction lying in a plane parallel the first direction; and a frame, a carriage, a marking head, and first and second motors being disposed in a housing so that a centre of gravity of the frame, carriage, marking head, and first and second motors is sufficiently coincident the plane over all movements of the frame in said second direction wherein recoils of the marking head when the stylus is driven by a drive means do not cause moments about the centre of gravity, as required by independent claim 14.

We have made a side view of Troester's marking device that is based on Figs. 1 and 2 of Troester's patent (see Attachment A enclosed). In doing so, we note what appear to be two inconsistencies between Figs. 1 and 2 (which are purported to be of the same embodiment) of the Troester patent. First, axis 30 in Fig. 2 appears to pass through pulley 32, whereas in Fig. 1 it is clearly below the pulley. It appears that extension elements (indicated as reference numeral 38) in Fig. 2 have been added to the drawing, thereby raising the pivot axis. Since this would result in a minimum change in the tension of belt 16 as frame 28 pivots about that axis, this is the pivot line that our draftsman employed. Second, the vertical alignment of pulleys 34, 36 appear different in the two figures. In Fig. 2,m pulley 34 appears to be on a vertically upward extension of frame element 34, whereas in Fig. 1, it appears to be vertically downwardly displaced in a recess of frame 28. Since the latter arrangement would appear to better support the Examiner's position, our draftsman adopted it in the attached drawing.

Be that as it may, the attached drawing shows that center of gravity of the components is clearly below the line of action of Troester's marker 13. Consequently, recoils of Troester's marker would inevitably cause moments about the center of gravity, regardless of other components of the apparatus, whether they balance or resist those coils, or not. Bear in mind,

that Troester's relatively massive motors 29, 22 (whose rotation axis is pin 23), are both substantially below the line of action of marker pin 13.

The motors inevitably account for a large proportion of the mass of Troester's marker. Furthermore, in his Summary section, Troester places emphasis on reducing the weight if the device, given that the device is handheld. (see col. 3, line 61 to col. 4, line 20). Thus, items such as enclosure 50 are not likely to be massive components. Col. 6, line 66 to col. 7, line 2 also state that the frame is made from a lightweight material such as aluminum.

Since these factors cannot be simply ignored; since Troester is completely silent about the problem of recoils, and; since it is clear that the line of action of Troester's marker 13 is not aligned with the centre of gravity of the frame, carriage, marking head, and first and second motors, it is inappropriate to simply state that Troester teaches these features. Nor, can it be fairly said that recoils in Troester's device " do not cause moments about the devices" centre of gravity, when a careful examination of the apparatus demonstrates that this will indeed be the case.

We submit therefore that , at least for this reason, independent claim 14 is patentable over the Troester patent. Because claims 15 and 24-27 depend from claim 14, we submit that these claims are patentable over the cited art for at least the same reason that independent claim 14 is patentable.

Independent claim 30

The Examiner rejected claims 30, 31, and 40-44 as anticipated by Troester. As argued in our previous reply, we submit that Troester's motors are not within the confines of his frame, as is required by claim 30. We are assuming that the element in question is Troester's frame 28. If the Examiner disagrees, we ask that he point us to what element constitutes Troester's frame. That said, as can be seen clearly from the side view, that although there are elements of Troester's marking device that are within frame 28, motor 29 is not one of them. Confining the motor within the frame advantageously aligns the masses of the motors with the frame and, hence with the marking head. Troester's motor mount 38 is clearly not part of motor 29 so it is

not clear why the Examiner refers to Troester's motor mount 38 in the "Response to Arguments" section. of the office action. We submit therefore that Troester does not anticipate or render obvious, the features of independent claim 30.

Because claims 31 and 40-44 depend from claim 30, we submit that these claims are patentable over the cited art for at least the same reason that independent claim 30 is patentable.

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Respectfully submitted,

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